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Hawley's

Condensed Chemical

Dictionary

THIRTEENTH EDITION

Revised by

Richard J. Lewis, Sr.

VNR

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de by heating equal parts of
) 1400C, first made in 1978,
gh resistance to alkalies and
te for asbestos for cement re-
:ale production for this pur-
ment.

(1) A soda-lime glass con-
' 5% boric oxide, which low-
e silica without increasing its
uch glasses (known as boro-
low expansion coefficient and
about 593C). Tensile strength
)00 psi. Continuous-use tem-
nits UV light in higher wave-
n sunlight lamps and similar
ason.

ate glass as a storage-disposal
:l radioactive wastes has been
ne time. Tentative conclusions
rature and high-pressure au-
: that this method would be
storage of such wastes.

ss trademarked "Vycor" that
C.

isparent, and very flexible pa-
:ssive beating of the pulp. It
xture of urea formaldehyde to

: covers for books; general

Term for manganese dioxide

:tal alloys having an amor-
e similar to that of silica glass;
of the molten alloy so rapidly
ucture is formed. Such alloys
than their crystalline counter-
resistant to corrosion. Those
unusual ferromagnetic prop-
suitable for use as transformer

:ses intended for vision cor-
ications as lenses for cameras,
er instruments; must be of ex-
and uniformity to meet re-
:ive index and light dispersion.
e either crown (lime) or flint

and flint glasses for specific refractivity and dispersion properties.

glass, photochromic. A glass that changes color on exposure to light and returns to original color when the light has been removed. One type is a silicate glass containing dispersed crystals of colloidal silver halide that is precipitated within the melt during cooling. Alkali borosilicates are the most suitable types of glasses for this purpose.
Use: Variable-tint prescription lenses that darken in sunlight and return to original clearness indoors (85% light transmission when clear, 45% in sunlight).

glass, photosensitive. A glass containing a small amount of a photosensitive substance such as a gold, silver, or copper compound. When UV light is passed through a photographic negative onto the surface of this glass, a latent image formed within the glass is converted to a visible image made up of tiny metal particles when the glass is heated. In a special type of photosensitive glass (photosensitive opal), the metal particles of the photographic image within the glass serve as nuclei for the growth of nonmetallic crystals; crystalline growth is confined to the area of the image. These crystalline areas are dissolved much more rapidly than the adjacent glass by hydrogen fluoride. Thus, the glass can be formed into intricate shapes without the use of mechanical tools.

glass, plate. Plate glass has the same composition as window glass (soda-lime silica), differing from it only in method of manufacture. These differences are primarily (1) the longer time of annealing (3 or 4 days), which eliminates the distortion and strain effects of rapid cooling, and (2) intensive grinding and polishing, which removes local imperfections and produces a bright, highly reflecting finish.

glass, ruby. A deep-red glass made by incorporating colloidal gold into the silicate mixture. It is used chiefly in the decorative arts.

glass, safety. See safety glass.

glass transition temperature. (T_g).The temperature at which an amorphous material (such as glass or a high polymer) changes from a brittle vitreous state to a plastic state. Many high polymers, such as acrylics, and their derivatives have this transition point, which is related to the number of carbon atoms in the ester group. The T_g depends on its composition and extent of annealing.

glass, water. See sodium silicate.

magnesium found in greensands and other sedimentary rocks.
Properties: Green in color, earthy luster. D 2.3.
Occurrence: New Jersey, Virginia.
Use: Water softener, foundry molds, fertilizer.

glaze. A mixture similar to porcelain enamel, applied to a ceramic substrate. It may refer to (1) a vitreous coating on pottery or enamelware, (2) the mixed dry powders of the batch to be used for the coating, or (3) a water suspension of these materials (wet glaze). Glazes must be low in sodium and are usually mixtures of silicates and flint, lead compounds, boric acid, calcium carbonate, etc.
See frit; porcelain enamel.

glaze stain. Finely ground calcined oxide of cobalt, copper, iron, and manganese.
Use: Coloring ceramic glazes.

GLC. Abbreviation for gas-liquid chromatography.
See gas chromatography.

gliadin. A prolamin occurring in gluten, the protein of wheat, rye, and other grains. Wheat gliadin has the following composition: 52.7% carbon, 17.7% nitrogen, 21.7% oxygen, 6.9% hydrogen, 1.0% sulfur. It is composed of 18 amino acids, 40% being glutamic acid. Insoluble in water, soluble in 70–90% alcohol, soluble in dilute acid and in alkali.
Use: Chemical synthesis of spinal anesthetics, pharmaceutical preparations.

"Glidco" *[SCM].* TM for a series of products containing or derived from terpene hydrocarbons. They include tars used for impregnating paper, twine, cordage, etc.; dipentene is used in paints and rubber reclaiming, and terpineol is used in soap perfumes and the preparation of essential oils.

"Glidmint Mint Oils" *[SCM].* TM for peppermint and spearmint oils, which are identical in nature.
Available forms: Redistilled, double distilled, or triple distilled.

"Glidox" *[SCM].* TM for series of biodegradable mixtures of terpene chemicals made from a renewable natural resource.
Use: Rubber polymerization catalysts for SBR.

"Glidsafe" *[SCM].* TM for terpene-based solvents and cleansers to replace conventional solvents. Replaces hazardous or restricted (chlorinated) solvents.